

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-155452

(43)Date of publication of application : 06.06.2000

(51)Int.Cl.

G03G 15/00  
H04N 1/00

(21)Application number : 10-347898

(71)Applicant : RICOH CO LTD

(22)Date of filing : 20.11.1998

(72)Inventor : KABUMOTO MASAOKI  
YAMADA KAZUYOSHI

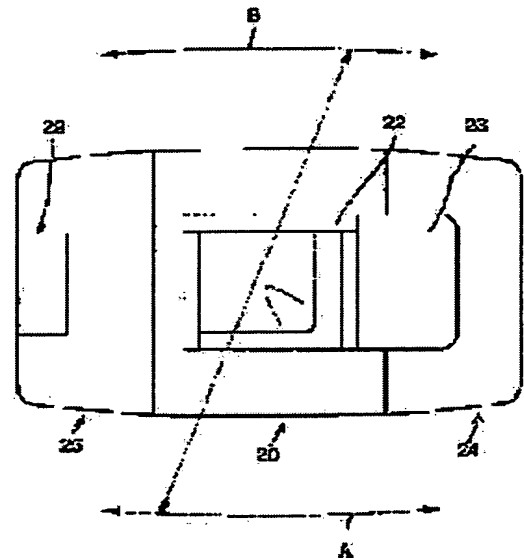
## (54) IMAGE FORMING DEVICE

## (57)Abstract:

PROBLEM TO BE SOLVED: To obtain an image forming device that a passer-by can smoothly pass along the periphery thereof, a user can smoothly approach the device and the body of the passer-by is hardly butted against the corner of the device or such feeling that he/she is hardly butted against the corner is given to the passer-by.

SOLUTION: A mass paper supply unit 24 and a paper ejection unit 25 arranged at both sides of a copying machine main body unit 20 are constituted so that the depth size of the sides being adjacent to the unit 20 are identical to the length of the unit 20 and the sides which are not adjacent to the unit 20 are shorter than the depth size of the unit 20.

Besides, both of the front and the rear edges of the units 24 and 25 are provided with an almost identical circular-arc curve so as to have a drum shape having medium thickness whose both ends are made narrower and whose central part is more protrusive than the end parts by viewing it from the upper part as one image forming device. Thus, even when this image forming device is installed at the center of a space like an island, it is good for the user and the passer-by and such feeling that he/she is hard to collide with the device is given.



## LEGAL STATUS

[Date of request for examination]

08.11.2002

[Date of sending the examiner's decision of rejection] 15.12.2004

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection] 2005-00955

[Date of requesting appeal against examiner's decision of rejection] 14.01.2005

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

CLAIMS

---

[Claim(s)]

[Claim 1] Image formation equipment which makes the flat-surface configuration of the body of equipment the thing of the body of equipment in which a front-face side has a curve configuration at least, and is characterized by becoming as an approximate circle arc in which the center section of the body of equipment projects this curve configuration rather than a right-and-left both-wings side.

[Claim 2] Image formation equipment of claim 1 characterized by becoming as an approximate circle arc in which the rear-face side of the body of equipment shall also have a curve configuration for the flat-surface configuration of the above-mentioned body of equipment, and the center section of the body of equipment projects this curve configuration rather than a right-and-left both-wings side.

[Claim 3] Image formation equipment of claim 2 characterized by becoming considering the above-mentioned curve configuration by the side of the front face of the above-mentioned body of equipment, and a rear face as a symmetry configuration.

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DETAILED DESCRIPTION

---

[Detailed Description of the Invention]

[0001]

[Industrial Application] Especially this invention relates to what improved the configuration of the body of equipment and aimed at an improvement in image of workability and an appearance etc. about image formation equipment.

[0002]

[Description of the Prior Art] As shown in drawing 1, there are what combined in one ADF2 which is a feed unit, delivery equipment 3, and the actuation display 4 at the body 1 of image formation equipment, and a thing constituted combining the extensive feeding unit 6, the delivery unit 7 or a paper processing unit, etc. focusing on the image formation unit 5 as shown at drawing 2 in image formation equipments, such as a copying machine and a printer. Moreover, as there is also image formation equipment of the type constituted combining two or more large-sized units, for example, it is shown in drawing 3, the image-processing unit 9 and the other units 10 are allotted beside the image formation unit 8, and there is also an example which carries the personal computer 11 on the image-processing unit 9.

[0003] In well-known image formation equipments various [ these ], an invention-in-this-application person etc. has a flat front configuration in the place to get to know, and is a rectangle in general as a flat-surface configuration of the whole equipment, and it has become the thing of extent which rounded off near and four corners in the rectangular parallelepiped as a solid configuration.

[0004] By the way, the case where the way of placing depending on which it is called every so-called island is taken as an installation mode of the image formation equipment of these days is increasing. It is the gestalt which does not carry out contiguity arrangement of the equipment in a copy shop or office at fixtures, such as a wall, and a cabinet, a desk, but separates from a wall or fixtures, and installs equipment just like an island in a tooth space in every island.

[0005] When such an installation gestalt is adopted, a user and a passerby will pass through the perimeter of image formation equipment, and a user will approach image formation equipment from all directions. In that case, as shown in drawing 1 - drawing 3, when a user and a passerby pass near the equipment with the image formation equipment which has a rectangular flat-surface configuration, there are problems, like a user and a passing person come to memorize resistance about passing along an equipment side by becoming or that the body tends to hit being sensed [ \*\*\*\* / become ] such by the angle of equipment that it is easy to hook a property. Moreover, although a user can work in the condition of every island by turning even to a right-and-left both-sides [ of equipment ], and tooth-back side, if the body tends to be equivalent to the angle of equipment also in this case or it is easy to hit, a user will be impressed in many cases and a user will become easy to hesitate at migration.

[0006] Furthermore, although a user works the front-face side of equipment more often by moving to right and left linearly with large-sized equipment as shown especially in drawing 3, migration of such the linear body is not not much desirable, therefore it comes to regard as troublesome that a user moves the body, and there is a problem that it can also become barring a smooth activity.

[0007] Furthermore, with image formation equipment of a configuration like drawing 1 - drawing 3, when it carries out to every island, the feeling of harmony as fixtures to the perimeter environment of the location to install is low, and there is also a problem that the feeling of quality as one image

formation equipment is sensed low in many cases.

[0008] This invention is what was made in view of such a conventional trouble, and even if it makes smooth passing in the equipment circumference, and approach to equipment, the body cannot be equivalent to the angle of equipment easily in the case of passing in the equipment circumference, or migration or it performs passing and migration, it aims at providing the image formation equipment which can give a user and a passing person the feeling which the body is not easily in charge of.

[0009] Moreover, this invention aims at offering what raised the feeling of quality as one image formation equipment by improving the appearance configuration as the whole equipment.

[0010]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, what starts claim 1 among the image formation equipment of this invention makes the flat-surface configuration of the body of equipment the thing of the body of equipment in which a front-face side has a curve configuration at least, and is characterized by becoming as an approximate circle arc in which the center section of the body of equipment projects this curve configuration rather than a right-and-left both-wings side.

[0011] The thing concerning this claim 2 is characterized by becoming as an approximate circle arc in which the rear-face side of the body of equipment shall also have a curve configuration for the flat-surface configuration of the above-mentioned body of equipment, and the center section of the body of equipment projects this curve configuration rather than a right-and-left both-wings side, in order to attain the above-mentioned purpose.

[0012] The thing concerning this claim 3 is characterized by becoming considering the above-mentioned curve configuration by the side of the front face of the above-mentioned body of equipment, and a rear face as a symmetry configuration, in order to attain the above-mentioned purpose.

[0013]

[Embodiment of the Invention] The gestalt of operation of the image formation equipment applied to this invention below is explained with reference to a drawing. The perspective view showing 1 operation gestalt of the image formation equipment which drawing 4 requires for this invention, the perspective view which looked at drawing 5 from the back of the image formation equipment of drawing 4 R> 4, and drawing 6 are the top views showing roughly the configuration seen from the method of the same as the above. the image formation equipment of the example of illustration -- a copying machine -- it is -- 20 in drawing -- the body unit of a copying machine -- the medium tray 21 of an attachment-and-detachment type -- it has .., ADF22, and the manuscript paper output tray 23, and 24 in drawing is an extensive feeding unit, and 25 is a delivery unit.

[0014] ADF22 is mostly formed in a mid gear, the manuscript paper output tray 23 is allotted to the right-hand side, and the body unit 20 of a copying machine has formed the flatness parts [ other than the part of the table-like top-face section 26 monopolized by these ] field. 27 in drawing is allotted in the small crevice formed in the top-face section 26 by the electric power switch. Moreover, most of the top faces are made into the flat configuration except for the part wide opened in order that ADF22 may also feed paper to a manuscript, and the flat perimeter tooth space and the tooth space where the top face of the body unit 20 of a copying machine is remarkable conjointly formed of the top-face section 26 are made the flat.

[0015] Although the extensive feeding unit 24 is equipped with two or more feed stages, in order to avoid the manuscript paper output tray 23 of the body unit 20 of a copying machine, it has made top-face section 24a the flat configuration too except for the part cut and lacked. Moreover, although the delivery unit 25 cuts and lacks the left brink side central part of top-face section 25a and has formed the paper output tray 29 while it equips a left lateral with the extensive paper output tray 28 possible [ vertical movement ], it is made into the flat configuration except the part in which this paper output tray 29 was formed.

[0016] It not only has considered them as the configuration which does not have almost flat irregularity like illustration of a front configuration, respectively, but furthermore, each units 20, 24, and 25 also make height and a depth dimension mostly in agreement, and it constitutes them. It is only that ADF22 and the manuscript paper output tray 23 of the body unit 20 of a copying machine have projected upwards, and, specifically, other parts serve as the same height so that drawing 4 and

drawing 5 may show a height dimension. The body unit 20 of a copying machine has a rectangular flat-surface configuration so that drawing 6 may show a depth dimension well. Moreover, the extensive feeding unit 24 and the delivery unit 25 The depth dimension of the side which adjoins the body unit 20 of a copying machine is made into the same die length as the body unit 20 of a copying machine. The dimension of the side which does not adjoin the body unit 20 of a copying machine is made shorter than the depth dimension of the body unit 20 of a copying machine, and it has considered as the configuration which connected a part for the both ends from which depth differs as a configuration which presents the curve of the shape of radii with almost same first transition and trailing edge. Of course, the part of four corners, i.e., the edge of a side with the short depth of each rising wood 24a and 25a of the extensive feeding unit 24 and the delivery unit 25, takes an angle, and it is rounded off.

[0017] For this reason, when each units 20, 24, and 25 are connected and being constituted as one image formation equipment, if it sees from the upper part, as shown in drawing 6 , both ends will have become narrower, and while [ so-called ] a center section projects rather than an edge, the hard drum configuration of \*\* is presented. Since a twist not only also receives sensibility gentle to, but the magnitude of equipment looks small about rectangular parallelepiped-like equipment even if a user and a passerby pass through a perimeter or approach from various directions, when the installation gestalt called every island is adopted when it is such an appearance, consciousness-the feeling of resistance the body is equivalent to the angle of equipment or it is not only hard to hook a property on it, but sensed by passing along a side becomes small. It is also the same as when working by, of course turning even to a right-and-left both-sides [ of equipment ], and tooth-back side.

[0018] Furthermore, when a user works the front-face side of equipment by moving to right and left, the migration line becomes the thing of an approximate circle arc centering on ADF22 with many control inputs, as arrow heads A and B show to drawing 6 . Then, since it senses that a user tends to work, it comes to be able to perform a smooth activity.

[0019] In addition, since top-face section 25a of the delivery unit 25 is connected further and the flat side of the very large upper part is made, even if it does an image formation activity in top-face section 24a of the top-face section 26 of the body unit 20 of a copying machine and the top face of ADF22, and the extensive feeding unit 24, and the condition that there is no activity table etc. in near, a form, a clip, a pen, etc. can be finished. [ finishing / a manuscript or image formation ]

[0020] Moreover, although the equipment applied in addition to the operation gestalt mentioned above came to combine two or more units, of course, it is a thing applicable also about the image formation equipment in the case of being simple substance equipment, as this invention is not limited to this but it is shown in drawing 1 .

[0021]

[Effect of the Invention] As the image formation equipment concerning claim 1 has been explained above, the flat-surface configuration of the body of equipment Consider as the thing of the body of equipment in which a front-face side has a curve configuration at least, and since the center section of the body of equipment becomes as an approximate circle arc which projects rather than a right-and-left both-wings side, this curve configuration Passing in the front-face side [ equipment ] circumference and the approach to equipment become the smooth thing which gives neither a user nor a passing person a feeling of resistance. Moreover, even if the body not only stops being able to hit easily, but it is hard coming to hook a load etc. on the angle of equipment and performs passing and migration further in the case of passing in the front face of equipment, or migration, the effectiveness that the feeling which neither the body nor a load is easily in charge of can be given to a user and a passing person now is.

[0022] As the image formation equipment concerning claim 2 has been explained above, since it becomes as an approximate circle arc in which the center section of the body of equipment projects rather than a right-and-left both-wings side, this curve configuration by the rear-face side of the body of equipment having a curve configuration Also not only in the front-face side of equipment but in a rear-face side, it will become smooth like the approach to passing in the front-face side circumference of equipment and equipment in the equipment of claim 1. It is effective in the ability to give a user and a passing person now the feeling which the difficulty of hitting, a load, etc. hook,

and the body to the angle of equipment comes to present also hard, and neither the body nor a load is easily in charge of.

[0023] As having explained above , even if the installation gestalt which calls the curve configuration by the side of the front face of the body of equipment and a rear face every so-called island in installation tooth spaces , such as office , in addition to effectiveness common to the above since it becomes as a symmetry configuration is used for the image formation equipment concerning claim 3 , it comes to give it to those who look at feeling just as shown in a table , and it is effective in the feeling of the appearance as image formation equipment of quality increase .

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DESCRIPTION OF DRAWINGS

---

[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing an example of conventional image formation equipment.

[Drawing 2] It is the perspective view showing other examples of conventional image formation equipment.

[Drawing 3] It is the perspective view showing the example of further others of conventional image formation equipment.

[Drawing 4] It is the transverse-plane side perspective view showing 1 operation gestalt of the image formation equipment concerning this invention.

[Drawing 5] It is the said tooth-back side perspective view.

[Drawing 6] It is the rough top view of the equipment of drawing 4 and the operation gestalt of 5.

[Description of Notations]

20 Body Unit of Copying Machine

21 Medium Tray

22 ADF

23 Manuscript Paper Output Tray

24 Extensive Feeding Unit

25 Delivery Unit

26 Top-Face Section of Body Unit of Copying Machine

27 Electric Power Switch

28 Extensive Paper Output Tray

29 Paper Output Tray

---

[Translation done.]



\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

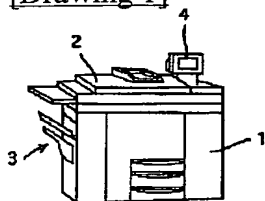
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

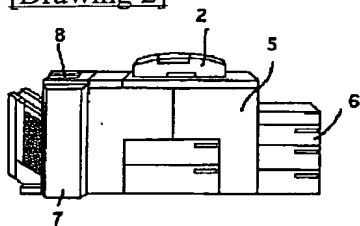
DRAWINGS

---

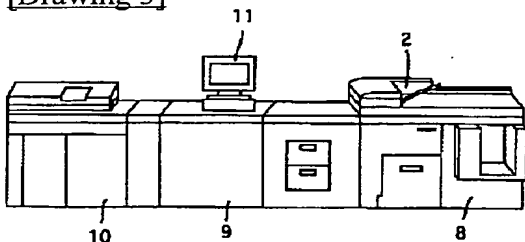
[Drawing 1]



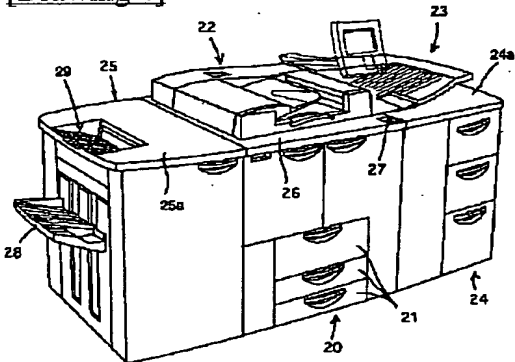
[Drawing 2]



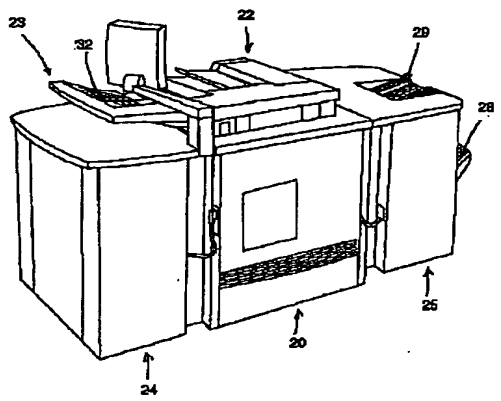
[Drawing 3]



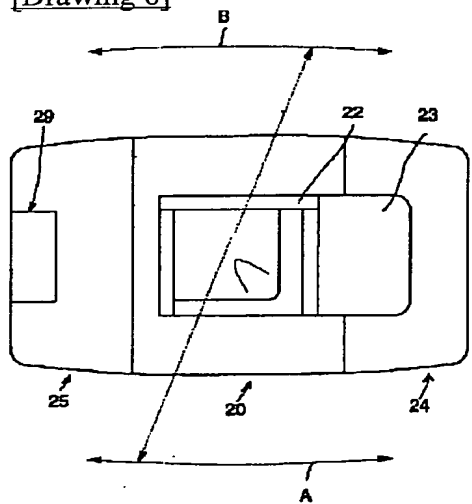
[Drawing 4]



[Drawing 5]



[Drawing 6]



---

[Translation done.]

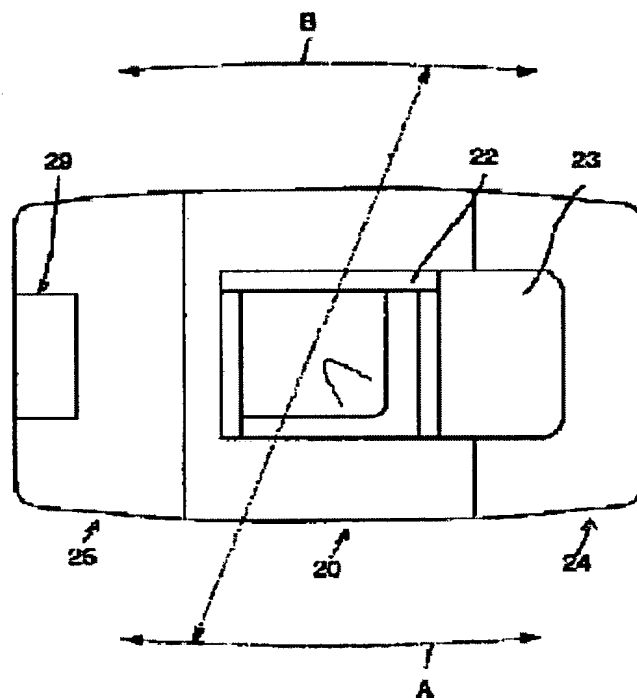
**IMAGE FORMING DEVICE**

**Patent number:** JP2000155452  
**Publication date:** 2000-06-06  
**Inventor:** KABUMOTO MASAOKI; YAMADA KAZUYOSHI  
**Applicant:** RICOH KK  
**Classification:**  
- international: G03G15/00; H04N1/00  
- european:  
**Application number:** JP19980347898 19981120  
**Priority number(s):** JP19980347898 19981120

Report a data error here

**Abstract of JP2000155452**

**PROBLEM TO BE SOLVED:** To obtain an image forming device that a passer-by can smoothly pass along the periphery thereof, a user can smoothly approach the device and the body of the passer-by is hardly butted against the corner of the device or such feeling that he/she is hardly butted against the corner is given to the passer-by. **SOLUTION:** A mass paper supply unit 24 and a paper ejection unit 25 arranged at both sides of a copying machine main body unit 20 are constituted so that the depth size of the sides being adjacent to the unit 20 are identical to the length of the unit 20 and the sides which are not adjacent to the unit 20 are shorter than the depth size of the unit 20. Besides, both of the front and the rear edges of the units 24 and 25 are provided with an almost identical circular-arc curve so as to have a drum shape having medium thickness whose both ends are made narrower and whose central part is more protrusive than the end parts by viewing it from the upper part as one image forming device. Thus, even when this image forming device is installed at the center of a space like an island, it is good for the user and the passer-by and such feeling that he/she is hard to collide with the device is given.



Data supplied from the esp@cenet database - Worldwide

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号  
特開2000-155452  
(P2000-155452A)

(43) 公開日 平成12年6月6日 (2000. 6. 6)

(51) Int.Cl. <sup>7</sup>	識別記号	F I	ターム* (参考)
G 0 3 G 15/00	5 5 0	G 0 3 G 15/00	5 5 0 2 H 0 7 1
H 0 4 N 1/00		H 0 4 N 1/00	D 5 C 0 6 2

審査請求 未請求 請求項の数3 F D (全 4 頁)

(21) 出願番号 特願平10-347898

(22) 出願日 平成10年11月20日 (1998. 11. 20)

(71) 出願人 000006747

株式会社リコー

東京都大田区中馬込1丁目3番6号

(72) 発明者 株本 正昭

東京都大田区中馬込1丁目3番6号 株式  
会社リコー内

(72) 発明者 山田 和義

東京都大田区中馬込1丁目3番6号 株式  
会社リコー内

Fターム(参考) 2H071 AA35 AA37 DA00

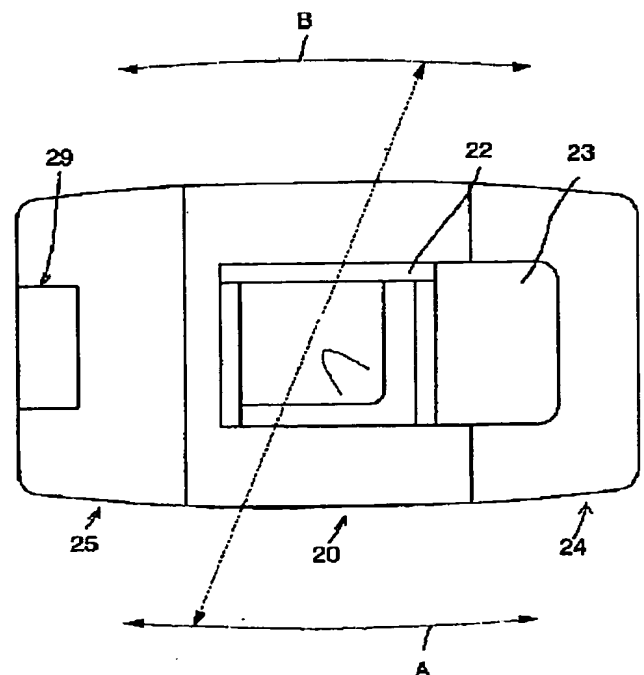
5C062 AA05 AD06 BA00

(54) 【発明の名称】 画像形成装置

(57) 【要約】

【課題】 周辺での通行、装置へのアプローチをスムーズにし、通行時等に装置の角に身体が当たりにくく、あるいは当たりにくそうな感覚を与え得る画像形成装置を提供する。

【解決手段】 複写機本体ユニット20の両脇の大量給紙ユニット24と排紙ユニット25は、複写機本体ユニット20に隣接する側の奥行き寸法が複写機本体ユニット20と同じ長さで、隣接しない側の寸法が複写機本体ユニット20の奥行き寸法よりも短く、前縁、後縁ともにほぼ同じ円弧状の曲線形状を有し、一つの画像形成装置として上方から見ると両端部がすぼんで中央部が端部よりも突出する中太の鼓形状を呈する。このためスペースの中央に島置きしても使用者や通行人に優しさと身体の当たりにくさを感じさせる。



(2)

1

## 【特許請求の範囲】

【請求項1】 装置本体の平面形状を、装置本体の少なくとも前面側が湾曲形状を有するものとし、該湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなることを特徴とする画像形成装置。

【請求項2】 上記装置本体の平面形状を、装置本体の後面側も湾曲形状を有するものとし、該湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなることを特徴とする請求項1の画像形成装置。

【請求項3】 上記装置本体の前面側と後面側の上記湾曲形状を対称形状としてなることを特徴とする請求項2の画像形成装置。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】本発明は画像形成装置に関し、特に装置本体の形状を改良して作業性、外観のイメージアップ等を図ったものに関する。

## 【0002】

【従来の技術及び発明が解決しようとする課題】複写機やプリンタ等の画像形成装置には、図1に示すように画像形成装置本体1に給紙ユニットであるADF2や排紙装置3、操作表示装置4を一体的に組み合わせたものや、図2に示すように画像形成ユニット5を中心に大量給紙ユニット6や排紙ユニット7あるいは紙処理ユニット等を組み合わせて構成したものがある。また大型で複数のユニットを組み合わせて構成するタイプの画像形成装置もあり、例えば図3に示すように、画像形成ユニット8の横に画像処理ユニット9やその他のユニット10を配し、画像処理ユニット9上にパーソナルコンピュータ11を搭載している例もある。

【0003】これら公知の各種画像形成装置においては、本願発明者等の知るところでは前面形状が平坦で、装置全体の平面形状としてはおおむね長方形であり、立体形状としては直方体に近く、四隅を丸めた程度のものとなっている。

【0004】ところで昨今の画像形成装置の設置態様としては、いわゆる島置きと称される置き方が採られる場合が増えつつある。島置きとは、例えばコピーショップやオフィス内で壁やキャビネット、デスク等の什器に装置を近接配置するのではなく、壁や什器から離してスペース内にあたかも島のように装置を設置する形態である。

【0005】このような設置形態が採用されると、使用者や通行人が画像形成装置の周囲を通行し、また使用者は画像形成装置へあらゆる方向から近付いてくることになる。その場合、図1～図3に示すように矩形の平面形状を有する画像形成装置では、使用者や通行人が装置の近くを通過するときに、装置の角に体が当たりやすくなったり、持ち物を引っ掛けやすくなったり、あるいはそのように感じることにによって使用者や通行人が装置のそ

2

ばを通ることについて抵抗を覚えるようになる等の問題がある。また島置きの状態では、使用者が装置の左右両側や背面側にまで回り込んで作業をすることもあり得るが、この場合も身体が装置の角に当たりやすく、あるいは当たりやすいと使用者に感じさせてしまうことが多く、使用者が移動をためらったりしやすくなる。

【0006】さらに、特に図3に示すような大型の装置では、使用者が装置の前面側を左右へ直線的に動いて作業をすることが多くなるが、このような直線的な身体の移動はあまり好ましいものではなく、したがって使用者が身体を移動させることを面倒に思うようになり、スムーズな作業を妨げることにもなり得るという問題がある。

【0007】またさらに、図1～図3のような形状の画像形成装置では、島置きとした場合に、設置する場所の周囲環境への什器としての調和感が低く、一つの画像形成装置としての品質感が低く感じられることが多いという問題もある。

【0008】本発明はこのような従来の問題点にかんがみてなしたもので、装置周辺での通行、装置へのアプローチをスムーズなものとし、また装置周辺での通行や移動の際に装置の角に身体が当たりにくく、あるいは通行や移動を行っても身体が当たりにくような感覚を使用者や通行者に与え得る画像形成装置を提供することを目的とする。

【0009】また本発明は、装置全体としての外観形状を改良することにより、一つの画像形成装置としての品質感を高めたものを提供することを目的とする。

## 【0010】

【課題を解決するための手段】本発明の画像形成装置のうち請求項1に係るものは、上記目的を達成するために、装置本体の平面形状を、装置本体の少なくとも前面側が湾曲形状を有するものとし、該湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなることを特徴とする。

【0011】同請求項2に係るものは、上記目的を達成するために、上記装置本体の平面形状を、装置本体の後面側も湾曲形状を有するものとし、該湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなることを特徴とする。

【0012】同請求項3に係るものは、上記目的を達成するために、上記装置本体の前面側と後面側の上記湾曲形状を対称形状としてなることを特徴とする。

## 【0013】

【発明の実施の形態】以下本発明に係る画像形成装置の実施の形態を図面を参照して説明する。図4は本発明に係る画像形成装置の一実施形態を示す斜視図、図5は図4の画像形成装置の後方から見た斜視図、図6は同上方から見た形状を概略的に示す平面図である。図示の例の画像形成装置は複写機で、図中20は複写機本体ユニッ

(3)

3

トで着脱式の給紙トレイ21・・・、ADF22、原稿排紙トレイ23を備えており、また図中24は大量給紙ユニット、25は排紙ユニットである。

【0014】複写機本体ユニット20は、テーブル状の上面部26のほぼ中央位置にADF22を設け、その右側に原稿排紙トレイ23を配し、これらによって専有される部分以外の部分は平たんな面を形成するようにしてある。図中27は電源スイッチで上面部26に形成した小さな凹部内に配してある。またADF22も原稿を給紙するために開放している部分を除いてその上面のほとんどをフラットな形状としてあり、上面部26により形成されるフラットな周囲スペースと相まって複写機本体ユニット20の上面のかんりのスペースをフラットなものとしている。

【0015】大量給紙ユニット24は複数の給紙段を備えるが、複写機本体ユニット20の原稿排紙トレイ23を避けるために切り欠いた部位を除いてやはり上面部24aをフラットな形状としてある。また排紙ユニット25は左側面に大量排紙トレイ28を上下動可能に備えるとともに、上面部25aの左縁側中央部位を切り欠いて排紙トレイ29を設けてあるが、この排紙トレイ29を設けた部位以外はフラットな形状としてある。

【0016】さらに各ユニット20、24、25は、それぞれ前面形状を図示のようにほとんどフラットな凹凸のない形状としてあるだけでなく、高さ及び奥行き寸法もほぼ一致させて構成してある。具体的には、高さ寸法は図4、図5からわかるように、複写機本体ユニット20のADF22と原稿排紙トレイ23が上方へ突出しているのみで、その他の部位は同じ高さとなっている。また奥行き寸法は、図6からよくわかるように、複写機本体ユニット20が長方形の平面形状を有し、大量給紙ユニット24と排紙ユニット25は、複写機本体ユニット20に隣接する側の奥行き寸法を複写機本体ユニット20と同じ長さとし、複写機本体ユニット20に隣接しない側の寸法を複写機本体ユニット20の奥行き寸法よりも短くし、前縁、後縁ともにほぼ同じ円弧状の曲線を呈する構成として奥行きが異なる両端部分をつないだ形状としてある。もちろん四隅の部分、すなわち大量給紙ユニット24と排紙ユニット25の各上縁部24a、25aの奥行きが短い側の端部は角を取って丸めてある。

【0017】このため各ユニット20、24、25を連結して一つの画像形成装置として構成した場合、上方から見ると図6に示すように両端部がすばんでおり、中央部が端部よりも突出する、いわゆる中太の鼓形状を呈する。このような外観とすると、島置きと称される設置形態を採用した場合に使用者や通行人が周囲を通行したりいろいろな方向から近付いてきても、直方体状の装置についてよりも優しい感じを受けるだけでなく装置の大きさが小さく見えるので、装置の角に体が当たったり、持ち物を引っ掛けたりしにくいばかりでなく、そばを通る

4

ことで感じる知覚的な抵抗感が小さくなる。もちろん装置の左右両側や背面側にまで回り込んで作業をする場合も同様である。

【0018】さらに、使用者が装置の前面側を左右へ動いて作業をする場合、その移動線は、図6に矢印A、Bで示すように、操作量が多いADF22を中心にした略円弧状のものになる。すると、使用者が作業しやすいと感じるので、スムーズな作業ができるようになる。

【0019】なお複写機本体ユニット20の上面部26及びADF22の上面、大量給紙ユニット24の上面部24a、さらには排紙ユニット25の上面部25aが連結されて非常に広い上部のフラット面をなしているの  
10 で、近くに作業テーブル等がない状態で画像形成作業を行っても、原稿や画像形成済みの用紙、クリップやペン等を置くことができる。

【0020】またなお、上述してきた実施形態に係る装置は、複数のユニットを組み合わせるものであったが、本発明はこれに限定されず、図1に示すように単体装置である場合の画像形成装置についても適用できるものであることはもちろんである。

【0021】

【発明の効果】請求項1に係る画像形成装置は、以上説明してきたように、装置本体の平面形状を、装置本体の少なくとも前面側が湾曲形状を有するものとし、この湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなるので、装置の前面側周辺での通行、装置へのアプローチが、使用者や通行者に抵抗感を与えないスムーズなものになり、また装置前面での通行や移動の際に装置の角に身体が当たりにくくなるだけでなく、荷物などを引っ掛けにくくなり、さらに通行や移動を行っても身体や荷物が当たりにくような感覚を使用者や通行者に与え得るようになるという効果がある。

【0022】請求項2に係る画像形成装置は、以上説明してきたように、装置本体の後面側も湾曲形状を有するものとし、この湾曲形状を、装置本体の中央部が左右両翼側よりも突出する略円弧状としてなるので、装置の前面側だけでなく後面側においても、請求項1の装置における装置前面側周辺での通行や装置へのアプローチと同様にスムーズなものになり、装置の角への身体が当たりにくさや荷物などの引っ掛けにくさも呈するようになり、また身体や荷物が当たりにくような感覚を使用者や通行者に与え得るようになるという効果がある。

【0023】請求項3に係る画像形成装置は、以上説明してきたように、装置本体の前面側と後面側の湾曲形状を対称形状としてなるので、上記共通の効果に加え、オフィス等の設置スペース内においていわゆる島置きと称する設置形態を採用しても、あたかもテーブルのような感覚を見る者に与えるようになり、画像形成装置としての外観の品質感が高まるという効果がある。

【図面の簡単な説明】

50

(4)

5

6

【図1】従来の画像形成装置の一例を示す斜視図である。

【図2】従来の画像形成装置の他の例を示す斜視図である。

【図3】従来の画像形成装置のさらに他の例を示す斜視図である。

【図4】本発明に係る画像形成装置の一実施形態を示す正面側斜視図である。

【図5】同背面側斜視図である。

【図6】図4、5の実施形態の装置の概略的な平面図である。

# 【符号の説明】

20 複写機本体ユニット

21 給紙トレイ

22 ADF

23 原稿排紙トレイ

24 大量給紙ユニット

25 排紙ユニット

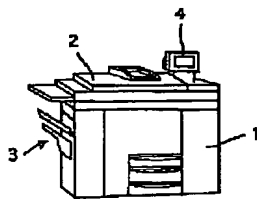
26 複写機本体ユニットの上面部

27 電源スイッチ

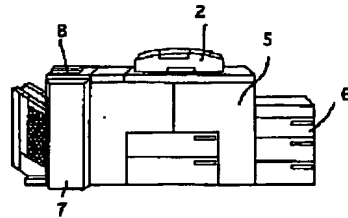
28 大量排紙トレイ

29 排紙トレイ

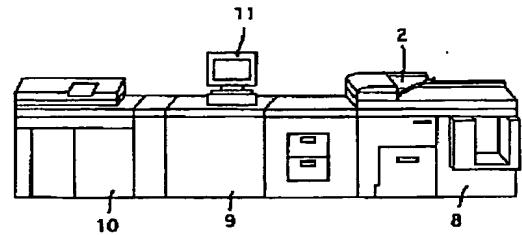
【図1】



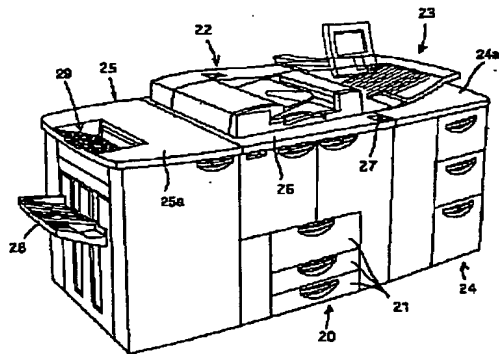
【図2】



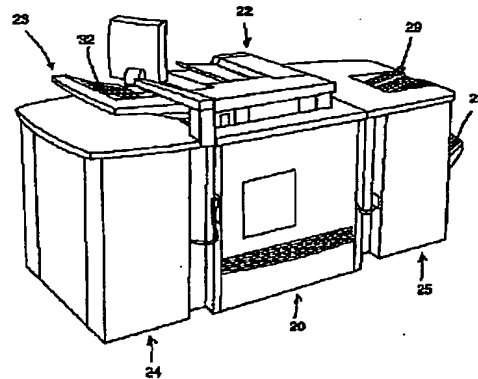
【図3】



【図4】



【図5】



【図6】

